

## RESEARCH INTERESTS

Active fluids, fluid-structure interaction, moving boundary problems, numerical simulation.

## EDUCATION

### Ph.D. Candidate, Mathematics

Expected May 2022

*Courant Institute of Mathematical Sciences, New York University, New York, NY*

Advisors: Leif Ristroph and Michael J. Shelley

### B.S., Mathematics

May 2018

*Yale University, New Haven, CT*

Senior Thesis: "Circuit bounds on stochastic transport in the Lorenz equations."

Advisors: John S. Wettlaufer and Larry Wilen

## PUBLICATIONS

1. S. Weady, J. Tong, A. Zidovska, and L. Ristroph. Anomalous convective flows carve pinnacles and scallops in melting ice. *Submitted*, 2021.
2. S. Weady, D. B. Stein, and M. J. Shelley. A fast Chebyshev method for the Bingham closure with application to active nematic suspensions. *Submitted*, 2021.
3. S. Weady, S. Agarwal, L. Wilen, and J.S. Wettlaufer. Circuit bounds on stochastic transport in the Lorenz equations. *Physics Letters A*, 382(26), 2018.

## TALKS & PRESENTATIONS

"Shape dynamics of ice melting in cold water"

Modeling & Simulation Group Seminar, *Courant Institute*, December 2020

"Transport in the stochastic Lorenz system"

APS DFD, November 2017

"Tropicalizations of finite projective planes"

MAA MathFest, August 2016

## AWARDS & GRANTS

NSF Graduate Research Fellowship, 2019 - 2022

MacCracken Fellowship, *New York University*, 2018

Dean's Fellowship Program, *New York University*, 2018

International Summer Award, *Yale University*, 2014

M. Albert Geib Scholar, *Yale Club of New Haven*, 2013

National Hispanic Scholar, 2013

## TEACHING

Teaching Assistant, Department of Mathematics

*Courant Institute, New York University, New York, NY*

- Introduction to Computer Simulation (Undergraduate), Spring 2021
- Modeling & Simulation in Science, Engineering, and Economics (Undergraduate), Fall 2020

Course Grader, Department of Mathematics  
*Courant Institute, New York University, New York, NY*  
• Numerical Methods I (Graduate), Fall 2019

Course Grader, Department of Mathematics  
*Yale University, New Haven, CT*  
• Calculus I (Undergraduate), Spring 2016  
• Calculus I (Undergraduate), Fall 2015  
• Calculus I (Undergraduate), Fall 2014

## SERVICE

Co-organizer, AM-SURE (Summer Undergraduate Research Experience) <i>Courant Institute, New York University, New York, NY</i>	Summer 2021
Co-organizer, Modeling & Simulation Group Seminar <i>Courant Institute, New York University, New York, NY</i>	Sep 2020 - May 2021
Co-organizer, Graduate Student-Postdoc Seminar <i>Courant Institute, New York University, New York, NY</i>	Sep 2018 - May 2020
Volunteer Tutor, Integrated Refugee & Immigrant Services (IRIS) New Haven, CT	Jan 2018 - July 2018
Volunteer Teacher, MathCounts New Haven, CT	Sep 2013 - Dec 2015

## REFERENCES

Leif Ristroph, New York University  
*ristroph@cims.nyu.edu*

Michael Shelley, New York University  
*mshelley@flatironinstitute.org*

John Wettlaufer, Yale University  
*john.wettlaufer@yale.edu*

Larry Wilen, Yale University  
*larry.wilen@yale.edu*